

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A device for transport of molecules or energy across or into a biological barrier comprising:

a plurality of microneedles, each microneedle formed of a first material and a second material, wherein the second material comprises rigid particles which are dispersed ~~homogeneously~~ throughout at least a portion of the first material or form ~~forms~~ a portion of the microneedle and which enhance the mechanical strength of the microneedles compared to microneedles formed without the second material.

2. (Original) The device of claim 1, wherein the first material is a polymer.

3. (Original) The device of claim 2, wherein the polymer is a biodegradable polymer.

4. (Original) The device of claim 3, wherein the polymer is selected from the group consisting of poly(lactide)s, poly(glycolide)s, poly(lactide-co-glycolide)s, polyanhydrides, polyorthoesters, polyetheresters, polycaprolactones, polyesteramides, poly(butyric acid)s, poly(valeric acid)s, polyhydroxyalkanoates, degradable polyurethanes, copolymers thereof, and blends thereof.

5. (Original) The device of claim 2, wherein the polymer is a non-biodegradable polymer.

6. (Original) The device of claim 1, wherein the first material, the second material, or both, comprise a metal.

7. (Currently Amended) The device of claim 1, wherein the first material comprises a drug, ~~the second material, or both, comprise molecules to be released.~~

8. (Currently Amended) The device of claim 3 ~~[[7]]~~, wherein the second material ~~molecules to be released~~ comprises a drug.

9. (Original) The device of claim 8, wherein the drug is a vaccine.

10. (Cancelled)

11. (Cancelled)

12. (Currently Amended) The device of claim 1, wherein the second material comprises ~~is a salt or other leachable particle.~~

13-21. (Cancelled)

22. (Previously Presented) The device of claim 1, further comprising a substrate from which the plurality of microneedles extend.

23. (Currently Amended) The device of claim 1, wherein the microneedles have lengths between about 10 and 1000 ~~500~~ microns.

24. (Previously Presented) The device of claim 23, wherein the microneedles have widths between about 10 and 500 microns.

25-54. (Cancelled)

55. (Currently Amended) A device for transport of molecules or energy across or into a biological barrier comprising:

a plurality of microneedles, each microneedle formed of a polymer and a second material, wherein the second material comprises rigid particles which are dispersed ~~homogeneously~~ throughout at least a portion of the polymer or form ~~forms~~ a portion of the microneedle and which enhance the mechanical strength of the microneedles compared to microneedles formed without the second material.

56. (Previously Presented) The device of claim 55, further comprising a substrate from which the plurality of microneedles extend.

57. (Previously Presented) The device of claim 55, wherein the polymer is a biodegradable polymer.

58. (Previously Presented) The device of claim 57, wherein the second material comprises a drug.

59. (Currently Amended) A device for transport of molecules or energy across or into a biological barrier comprising:

a plurality of microneedles, each microneedle formed of a first material and a second material, wherein the second material comprises rigid particles which are dispersed ~~homogeneously~~ throughout at least a portion of the first material ~~polymer~~ or form ~~forms~~ a portion of the microneedles and which enhances the mechanical strength of the microneedles compared to microneedles formed without the second material; and

a substrate from which the plurality of microneedles extend.

60. (Previously Presented) The device of claim 59, wherein the first material is a biodegradable polymer.

61. (Previously Presented) The device of claim 60, wherein the second material is a drug.

62. (New) The device of claim 1, wherein the first material comprises a biodegradable polymer with a drug dispersed therein.
63. (New) The device of claim 55, wherein the first material comprises a drug.
64. (New) The device of claim 59, wherein the first material comprises a drug.
65. (New) The device of claim 55, wherein the first material is a biodegradable polymer with a drug dispersed therein.
66. (New) The device of claim 59, wherein the first material is a biodegradable polymer with a drug dispersed therein.
67. (New) The device of claim 3, wherein the biodegradable polymer is a soluble polymer.
68. (New) The device of claim 57, wherein the biodegradable polymer is a soluble polymer.
69. (New) The device of claim 60, wherein the biodegradable polymer is a soluble polymer.
70. (New) The device of claim 1, wherein the second material undergoes a temperature sensitive phase change at human body temperature.
71. (New) The device of claim 70, wherein the second material is a hydrate.
72. (New) The device of claim 55, wherein the second material undergoes a temperature sensitive phase change at human body temperature.
73. (New) The device of claim 72, wherein the second material is a hydrate.
74. (New) The device of claim 59, wherein the second material undergoes a temperature sensitive phase change at human body temperature.

75. (New) The device of claim 74, wherein the second material is a hydrate.
76. (New) The device of claim 1, wherein the first material and second material are disposed in a layered relationship with respect to each other.
77. (New) The device of claim 76, wherein the first material and second material are disposed in an alternating horizontal layer configuration with respect to each other.
78. (New) The device of claim 55, wherein the first material and second material are disposed in a layered relationship with respect to each other.
79. (New) The device of claim 78, wherein the first material and second material are disposed in an alternating horizontal layer configuration with respect to each other.
80. (New) The device of claim 59, wherein the first material and second material are disposed in a layered relationship with respect to each other.
81. (New) The device of claim 80, wherein the first material and second material are disposed in an alternating horizontal layer configuration with respect to each other.